

Virtual QuarkNet Center 2012 Activity Report

9/13/12

The Virtual QuarkNet Center 2012 has 9 active high school teachers from around the world. Two are lead teachers from the VLHC fellows group. Two are active but unpaid due to being outside the U.S. Five are active “regular” teachers. One teacher was added in 2012 and another shows interest for the coming year. Limited recruitment remains a goal for the coming academic year.



Masterclass preparatory exercise at Hamilton High School, Illinois. Virtual Center teacher Darwin Smith is on the right. Image is from KHQA-TV news coverage.

Masterclass 2012

Five Virtual Center high schools – Cohoes High School (New York), Concordia International School (China), Hamilton High School (Illinois), Parkway South High School (Missouri), and Shizuoka-kita High School (Japan) – participated in Masterclass 2011. Parkway South switched this year to the ATLAS masterclass, while the others did the CMS masterclass. Because of the very distributed nature of the center, each high school acted as an independent Masterclass Institute, with mentoring done by teachers in remote collaboration with mentors and staff. The Virtual Center was responsible for approximately 60 students (35 in the U.S.) in the 2012. All groups did well with the data and reported a positive experience.

Meetings

The Virtual Center meets monthly via videoconference to discuss their work with cosmic ray detectors, to learn about particle physics, and discuss center business. Mentors Antonio Delgado and Dan Karmgard gave frequent updates on LHC discovery and CMS status, respectively. They switched to the Vidyo videoconference system due to its support from CERN and its use in masterclasses.

Summer Workshop

Members of the Virtual Center met at the University of Notre Dame for a 3-day workshop. The agenda reached beyond the cosmic ray subject matter of previous workshops and got into issues of how to keep center communications strong and the CMS e-Lab.

Cosmic Ray Detectors

The Virtual Center currently has 6 detectors. One is at the University of Notre Dame and is used by staff teacher Ken Cecire. Another is at Parkway South High School near St. Louis, operated by Jim Small, Tim Morrison, and Tim's students. A third is at Hamilton High School with Darwin Smith and his students. Joel Klammer has a detector purchased by his school in Shanghai: he showed it collecting data in the last video conference, on September 11, 2011. Taku Nakamura and his students have a detector and a long history of working with QuarkNet. The last detector was with Kathy Kowsky of Cohoes High School but was returned to Notre Dame in anticipation of her retirement. Thus two detectors are available for new U.S. Virtual Center teachers in the coming year.